

What is Claimed is:

1. A medical apparatus comprising:

a flexible probe for accessing a patient's esophagus via the mouth, the probe, when in an operative position extending from a proximal end which remains outside the patient to a distal end within the esophagus;

an echocardiography transducer coupled to the distal end of the probe so that, when the probe is in the operative position, the echocardiography transducer is at a predetermined location within the esophagus relative to the heart to perform a transesophageal echocardiography procedure; and

an electrode disposed on the probe for delivering a cardioversion current to the heart via the esophagus.

2. The apparatus of claim 1, wherein the electrode comprises a plurality of electrodes disposed on the probe, each of the electrodes being coupled to a wire lead extending along the probe to the proximal end to couple to a power source.

3. The apparatus of claim 2, wherein the power source is one of a defibrillator and a cardioverter.

4. The apparatus of claim 1, wherein the apparatus is used to treat cardiac arrhythmia.

5. The apparatus of claim 2, wherein the electrodes are spaced along a longitudinal axis of the probe and wherein the electrodes are coupled to the power source via a plurality of leads so

that the selected ones of the are energized to supply cardioversion current to portions of the heart located adjacent to the selected ones of the electrodes.

6. The apparatus of claim 1, wherein the electrode is selectively mountable on and removable from the scope portion.

7. The apparatus of claim 1, wherein the electrode is mounted to a flexible sheath which is sized to be received over a distal portion of the probe and fixed thereon at a predetermined location, and wherein, when the sheath is fixed at the predetermined location, the electrode is in a desired position relative to the echocardiography transducer.

8. The apparatus of claim 7, wherein the sheath is permanently bonded to the probe.

9. The apparatus of claim 7, wherein the sheath is selectively mountable on and removable from the probe.

10. The apparatus of claim 9, wherein the electrode is coupled to a wire lead which extends from the electrode along the probe to exit the patient's body and couple to a power source.

11. The apparatus of claim 1, wherein the electrode is formed of a titanium foil.

12. The apparatus of claim 1, wherein the electrode has a length of 7-10 mm along an axial direction of the probe.

13. The apparatus of claim 2, wherein a proximal end of a first electrode is separated from a proximal end of a second electrode by a distance of 5 - 8mm.

14. A cardioversion mechanism comprising an electrode assembly selectively mountable to a transesophageal echocardiography probe, wherein, when mounted to the echocardiography probe,

electrodes of the electrode assembly are fixed at a predetermined location with respect to the echocardiography probe, the electrode assembly being coupled to a power source for supplying a cardioversion current to heart via tissue located adjacent thereto when the echocardiography probe is in an operative position within an esophagus of a patient.

15. The cardioversion mechanism of claim 14, wherein the electrode assembly is one of a single use assembly and a multiple use assembly.

16. The cardioversion mechanism of claim 14, wherein the electrode assembly includes a sheath for mounting the electrode assembly to the echocardiography probe.

17. The cardioversion mechanism of claim 16, wherein the electrodes and at least one lead wire coupling the electrodes to the power source are mounted one of within the sheath and on the sheath.

18. The cardioversion mechanism of claim 16, wherein the sheath is a flexible condom material for mounting to the echocardiography probe.

19. The cardioversion mechanism of claim 14, wherein the echocardiography probe includes a flexible insertion portion and an echocardiography transducer portion coupled to the flexible insertion portion.

20. A method of treating a heart of a patient, comprising the steps of:

inserting into the patient's esophagus a device comprising a flexible probe having an echocardiography transducer coupled to a distal end thereof and at least one cardioversion electrode coupled to the probe;

performing an echocardiography to analyze a condition of the heart; and

applying electric current to the at least one electrode to supply a cardioversion current to the heart when the echocardiography does not contraindicate cardioversion.

21. The method of claim 20, further comprising the step of performing an additional echocardiography immediately after the cardioversion using the echocardiography transducer.

22. The method of claim 20, further comprising the step of, prior to inserting the device into the esophagus, removably coupling a sheath to a distal portion of the probe, wherein the at least one electrode is mounted to the sheath.

23. The method of claim 22, further comprising the step of disposing the sheath after completing the procedure.